

IN THE CLAIMS:

Please cancel claim 59 without prejudice and amend claims 54 and 58 as set forth in the complete listing of the claims and their status that follows.

Claims 1-36. (Cancelled)

37. (Previously presented) A method for dynamic stabilization of motion segments of the spine comprising the steps of:

repairing or replacing all or part of the intervertebral disc between at least two vertebrae;

positioning a stabilization element adjacent the spine, the stabilization element configured to span a length of the spine between the at least two vertebrae;

engaging bone anchors to at least two vertebrae, each bone anchor including an engagement portion configured for engagement within a vertebra, a head portion configured for engagement to said stabilization element outside the vertebra, and a flexible portion between said engagement portion and said head portion; and

coupling the bone anchors to the stabilization element outside the vertebrae, with each of the bone anchors coupled to permit deflection of the bone anchor between the stabilization element and the corresponding vertebra to which such bone anchor is engaged.

38. (Original) The method for dynamic stabilization according to claim 37, wherein the step of repairing or replacing includes replacing all or part of the nucleus pulposus with a polymeric prosthesis having physical properties substantially similar to the physical properties of a natural nucleus pulposus.

Claims 38(B) - 40. (Cancelled)

41. (Previously presented) A method for dynamic stabilization of a motion segment of the spine comprising the steps of:

providing a dynamic stabilization system including a stabilization element configured to span a length of the spine between at least two vertebrae and at least two anchors each of said anchors including a head portion configured for contacting said stabilization element and an engagement portion configured for engaging a vertebra, each of said anchors including a

flexible portion between said head portion and said engagement portion configured to permit relative movement between said head portion and said engagement portion;

introducing a device into an intervertebral space between two vertebrae to at least partially maintain or restore the natural motion of the disc at the motion segment; and

coupling said dynamic stabilization system across the motion segment, whereby the bone anchor engaged in each of the two vertebrae permits natural motion of the motion segment by deforming a portion of the bone anchor.

42. (Original) The method for dynamic stabilization according to claim 41, wherein the device includes a device for replacing or augmenting the nucleus pulposus of the intervertebral disc.

43. (Original) The method for dynamic stabilization according to claim 42, wherein the step of introducing a device includes introducing a polymeric prosthesis to replace or augment the nucleus pulposus in which the polymeric prosthesis exhibits physical properties similar to the natural nucleus pulposus

44. (Previously presented) The method for dynamic stabilization according to claim 43, wherein the polymeric prosthesis is formed from a hydrogel.

45. (Previously presented) The method for dynamic stabilization according to claim 42, wherein the device for replacing or augmenting the nucleus pulposus is a mechanical device.

Claims 46 - 53. (Cancelled)

54. (Currently amended) A method for dynamic stabilization of a motion segment of the spine comprising the steps of:

introducing a device into an intervertebral space to at least partially maintain or restore the natural motion of the disc at the motion segment; and

coupling a dynamic stabilization system across the motion segment that permits substantially normal loading patterns on the disc by emulating substantially normal movement

of the motion segment in the anterior/posterior (A/P) plane in both directions during normal flexion and extension, said coupling step includes providing a stabilization element configured to span a length of the spine between at least two vertebrae and a bone engaging anchor for each vertebra, each of said anchors includes a head portion configured for contacting the stabilization element and an engagement portion configured for engaging a vertebra, at least one of said anchors being configured to provide a center of rotation situated between the stabilization element and the normal anatomic center of rotation for the motion segment.

55. (Previously presented) The method for dynamic stabilization according to claim 54, wherein the step of introducing a device includes introducing a device for replacing or augmenting the nucleus pulposus of the intervertebral disc.

56. (Previously presented) The method for dynamic stabilization according to claim 55, wherein the step of introducing a device includes introducing a polymeric prosthesis which exhibits physical properties similar to the natural nucleus pulposus.

57. (Previously presented) The method for dynamic stabilization according to claim 56, wherein the polymeric prosthesis is formed of a hydrogel.

58. (Currently amended) The method for dynamic stabilization according to claim 54, wherein the ~~step of coupling a dynamic stabilization system includes providing a center of rotation of the motion segment that~~ is located substantially at the posterior surface of the pedicle of the vertebrae of such segment.

59. (Cancelled)